Reshimming Tevatron Dipoles

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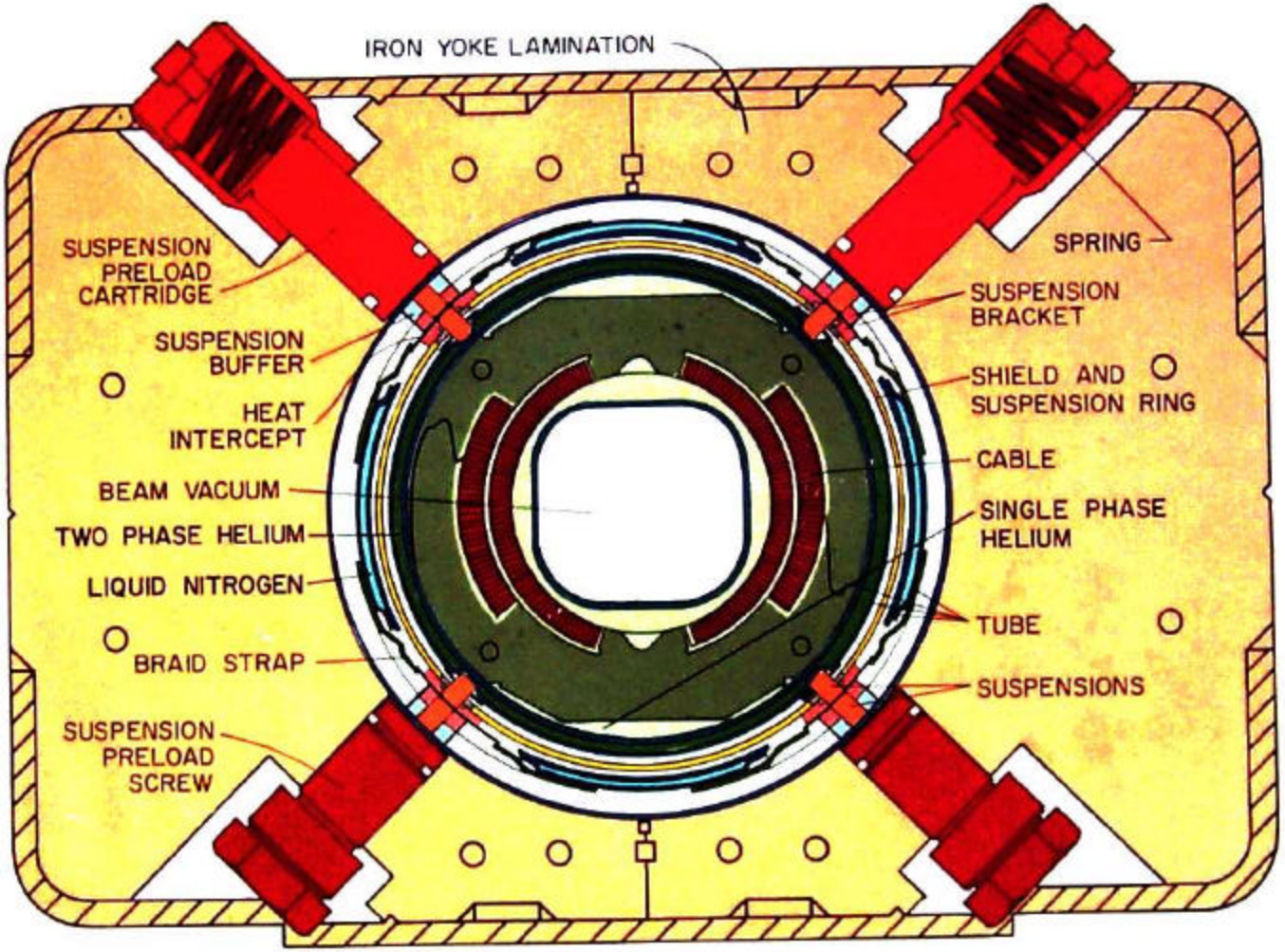
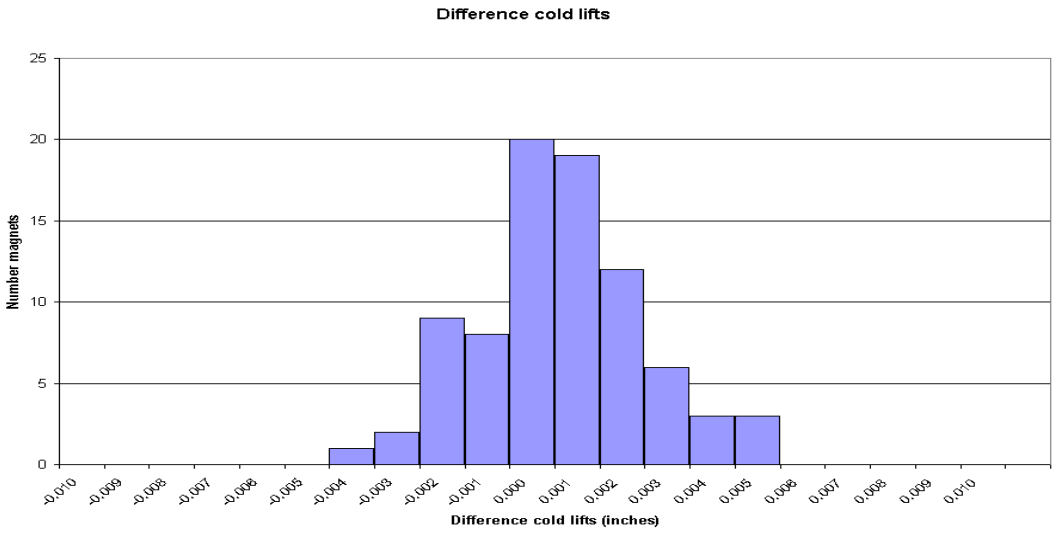
Tevatron dipole cross section

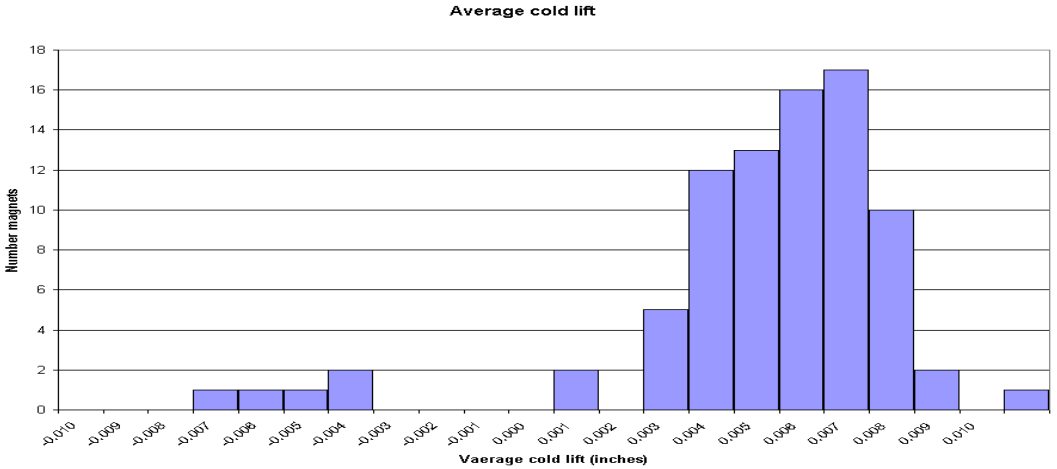


Measured Change in Cold Lift

- No change in (Q1-Q2)/2
  ? left-right OK

- 0.15 mm change in (Q1+Q2)/2
  ? 0.1 mm lowering





Coupled Oscillations in the Tevatron

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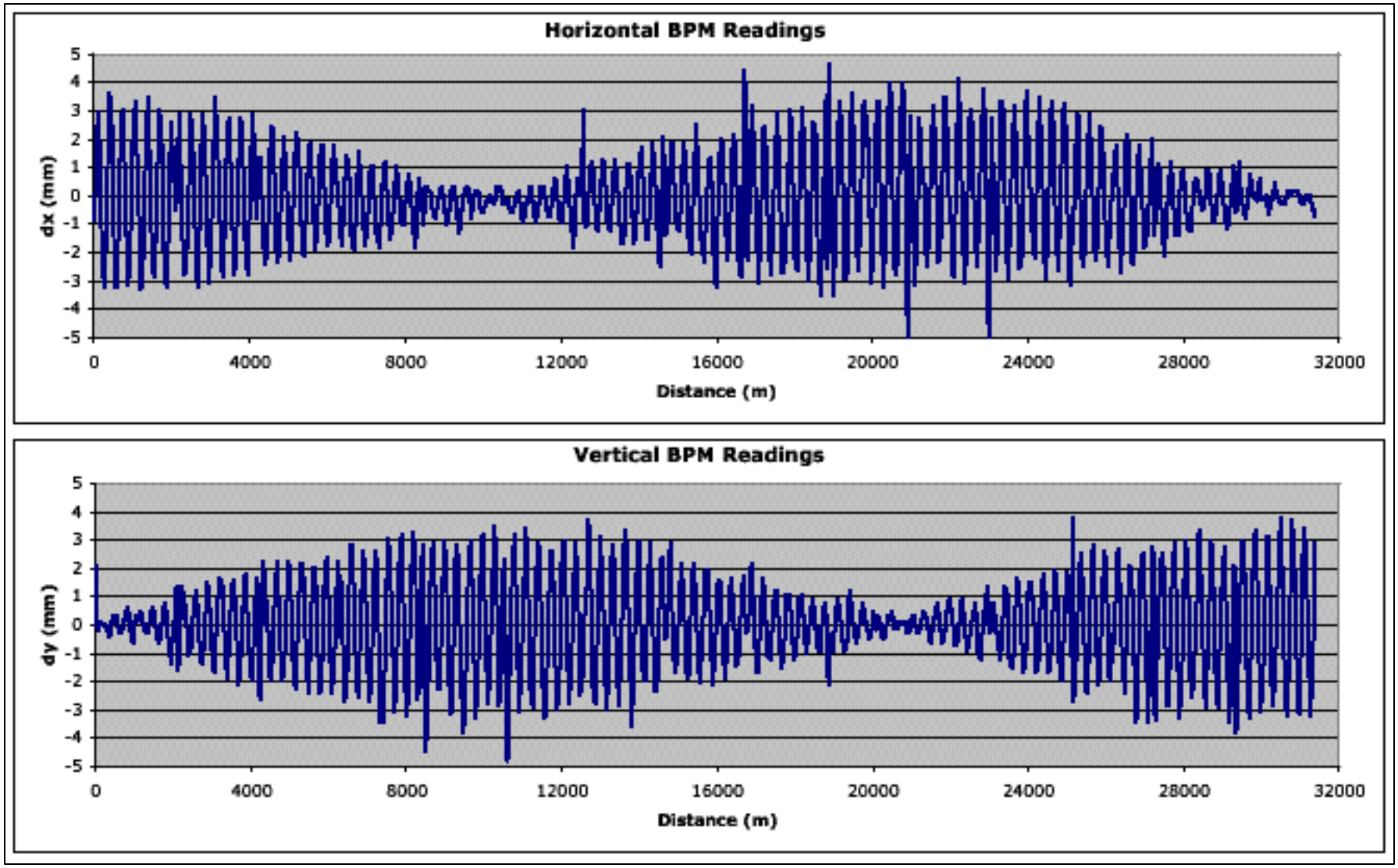


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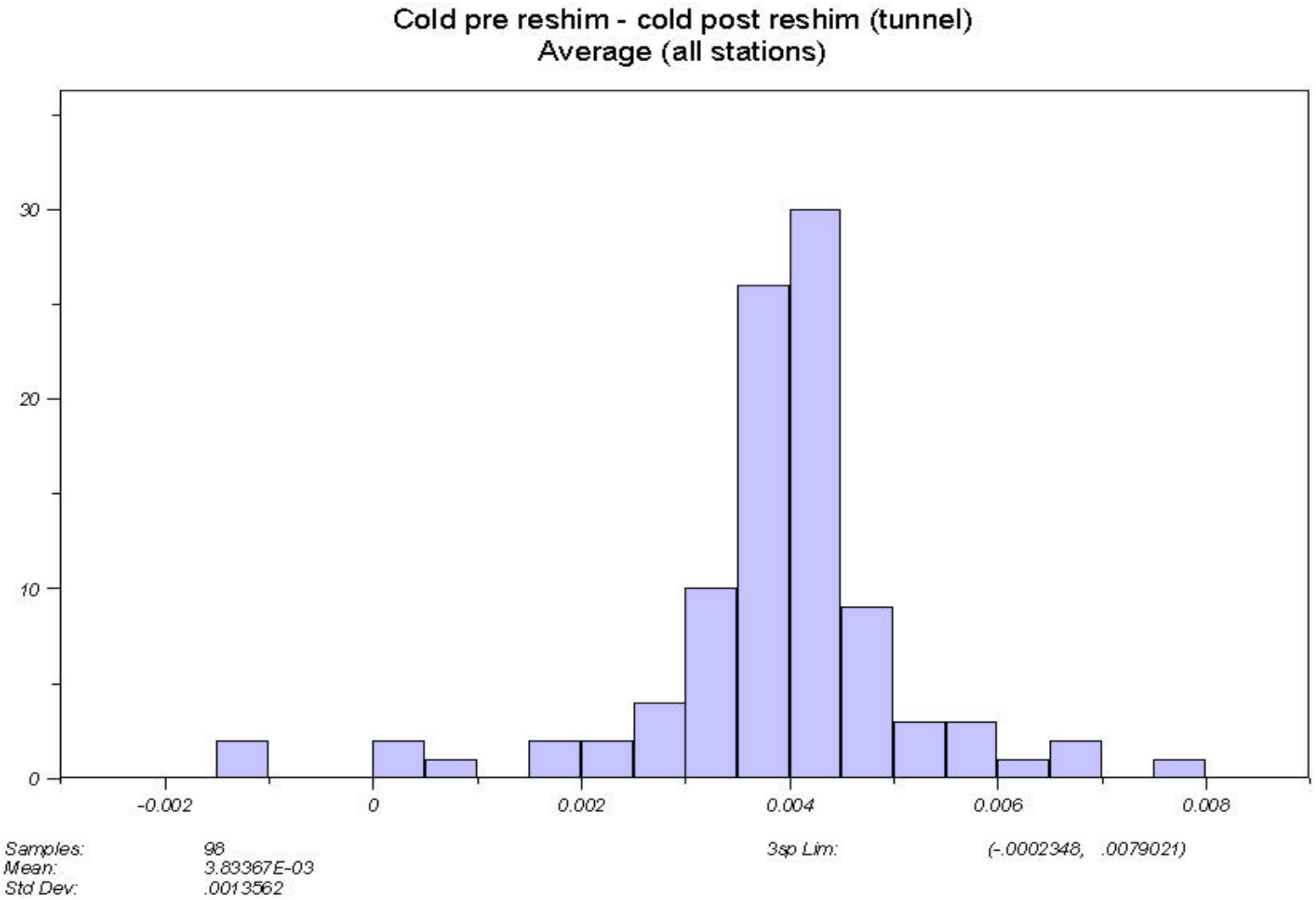
Reshimming differences (cold)



Tevatron Improvements

- Weaker correctors to smooth orbit – alignment and un-rolls
  - Aprox. 30% RMS strength
    - Vertical [illegible]: Old 2.72 Amps --- New 2.16 Amps (plot 1)
- Coupling Reduced – smart bolts
  - 6 down to 2 circuits
  - Strongest 2 current reduced 3% and 21 % (plot 2)
- Indication of smaller vertical dispersion – smart bolts
  - More studies to follow
- Better lifetime at 150 GeV
  - Even with larger longitudinal emittances for both protons and pbars
  - 16-28 hours for protons
  - Aperture open at A0 and liner installed at F0
- CDF interaction point did not move - as promised!
- Indications of significantly reduced impedance – F0 liner
  - Able to inject protons and open helix with 0 - 2 units of chromaticity -- Before the shutdown it was 4 - 8 units.
- New A0 sextupole magnet installed
  - Successfully used for decoupling on helix